

10/533372

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

Rec'd PCT/PTO 29 APR 2005

EXPRESS MAIL MAILING LABEL

(19) World Intellectual Property Organization
International Bureau

NO. EV6309863284S

(43) International Publication Date
21 May 2004 (21.05.2004)

PCT

(10) International Publication Number
WO 2004/042430 A2(51) International Patent Classification⁷:

G02B

(74) Agents: CONNORS, Matthew, E. et al.; Gauthier & Connors LLP, 225 Franklin Street, Suite 3300, Boston, MA 02110 (US).

(21) International Application Number:

PCT/US2003/034607

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 30 October 2003 (30.10.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/422,413 30 October 2002 (30.10.2002) US
60/478,767 16 June 2003 (16.06.2003) US

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): MASSACHUSETTS INSTITUTE OF TECHNOLOGY [US/US]; 77 Massachusetts Avenue, Cambridge, MA 02139 (US).

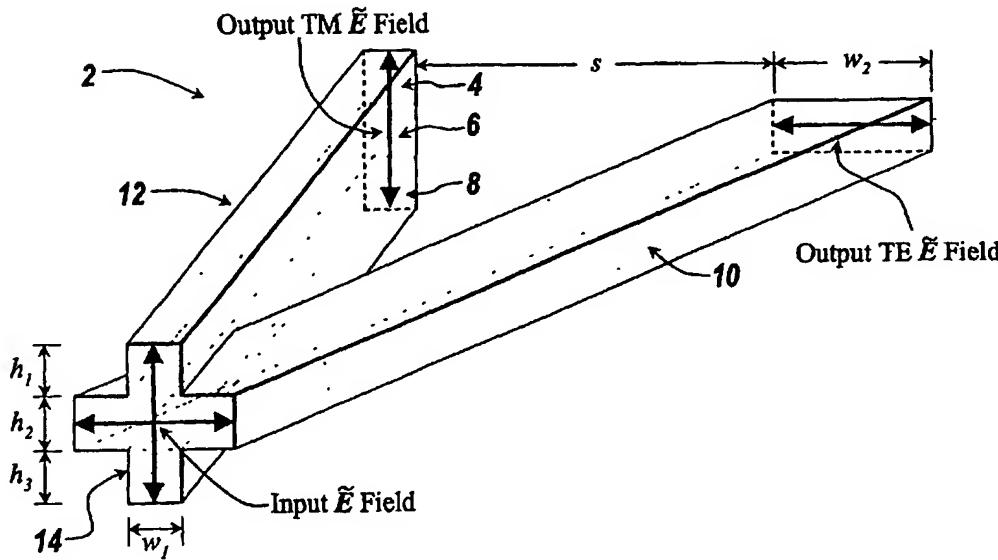
Published:

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: WAVELENGTH INSENSITIVE INTEGRATED OPTIC POLARIZATION SPLITTER

WO 2004/042430 A2



(57) Abstract: An integrated optic polarization splitter includes a pair of waveguide elements with a first waveguide element having a horizontal orientation and a second waveguide element having a vertical orientation formed from a plurality of waveguide core layers. The first and second waveguide elements are intersected or nearly intersected at one end of the structure and separated at the other end of the structure and the transition there between is made to be adiabatic. The waveguide elements receive an optical signal having both a TE component and a TM component. The TE component propagates along the horizontally oriented waveguide element and the TM component propagates along the vertically oriented waveguide element.